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ONTARIO

Department of Education

Courses of Study

Grades IX, X, XI and XII

Defence Training,
Health and Physical Education

Issued by Authority of
The Minister of Education

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COURSES OF STUDY

Grades IX, X, XI and XII

in

**COLLEGIATE INSTITUTES, HIGH, VOCATIONAL AND
CONTINUATION SCHOOLS**

Defence Training, Health and Physical Education

The course in Defence Training, Health and Physical Education covers in general the work previously included in the courses in Health and Physical Education and the training formerly given by the cadet corps where they were organized in the schools of the Province. With the approval of the Minister of Education, the Minister of National Defence, and the Minister of National Defence for Air, topics have been added which cover the training required by the reorganized army cadet programme and the newly organized Air Cadets of Canada operating under the Royal Canadian Air Force. A corresponding course for girls has also been provided.

The subjects listed under the Defence Training Programme constitute an obligatory course for all secondary schools of the Province except where exemption has been granted by the Minister of Education.

The programme of training outlined herewith takes the place of the course formerly provided in Health and Physical Education in all grades. Additional time is necessary for teaching the specialized topics which have now been added. In addition to the time already provided for Health and Physical Education, a minimum of one additional period a week is required in Grade X and two additional periods a week in Grades XI, XII and XIII. This time may be obtained as follows:

- (1) In Grade X one period a week shall be taken from the other obligatory subjects;
- (2) In Grades XI, XII and XIII two periods a week shall be provided in one of the following ways:
 - (a) By taking two periods from the other obligatory subjects;
 - (b) By shortening periods for two days of each week in order to obtain the additional time;
 - (c) By lengthening the school day. For the duration of the war a school day of five hours and thirty minutes is recommended.

DEFENCE TRAINING COURSE

in

Grades X, XI and XII

It is the aim of this course to provide the training for boys and girls in these grades which will make them conscious of the national need, and prepare them to serve in any capacity should the need arise.

It is intended that, as far as possible, the boys and girls will take the complete course set forth. In Grade X it is possible to offer a common course for both boys and girls. In Grades XI, XII and XIII much of the training is suitable for pupils of both sexes.

The full co-operation of the army and the air force is necessary in order to develop the Defence Training Programme. It is expected that officers of the army and the air force designated for this purpose by the Ministers of National Defence will pay occasional visits to the schools for the purpose of inspecting the work being done and offering suggestions relevant to the special subjects included in this programme. Such visits or inspections are to be encouraged. Formal inspection has an excellent effect, and each school is encouraged to plan for an inspection at a suitable time during the school year at which representatives of the army and the air force or a representative of the municipality or a local unit should be invited to assist in making the inspection a significant occasion. An inspection should demonstrate the progress made in each of the activities of the programme and should not be confined to ceremonial drill.

For the school year 1942-1943 a pupil will receive credit towards a secondary school graduation diploma on the recommendation of the Principal and staff, provided he has satisfactorily completed the course set forth for Grade XII in Defence Training, Health and Physical Education. The Provincial universities have indicated that, for the duration of the war, recognition of this course will be granted to pupils who gain the secondary school graduation diploma for admission to certain courses and that the recommendation of the Principal and staff will be accepted for the satisfactory completion of the Grade XIII course which is to be offered for the school year 1943-1944. Further information regarding the consideration to be given by the universities for the Grade XIII course will be available when that course is issued.

Competitions in athletics, games and sports are desirable and are considered essential for developing initiative and team spirit, but because of the additional time required for the teaching of this course, it is recommended that such competitions be held between classes and forms within the school, and that for the duration of the war no school time be taken for inter-school games.

In order that the senior pupils may have the benefit of the training provided by this course, it is recommended that the following plan be adopted for the school year 1942-1943:

- (1) In Grades X and XI the course prescribed;
- (2) In Grades XII and XIII subjects prescribed for Grade XII should be taught in both grades except that the Signals course for Grade XI should replace the one outlined for Grade XII; one additional period should be added for each grade in which the Grade XI subjects (i) map reading, fieldcraft and woodcraft, and (ii) internal combustion engines, shall be taught.

OUTLINE OF COURSE FOR BOYS

BASIC DRILL

Grades X to XIII

A comprehensive and progressive course in Basic Drill is to be included in the Physical Education course, and should occupy about fifteen periods each year in Grades X, XI, XII and XIII:

Position of attention, stand at ease, stand easy; formation of squad in threes, open and close order; dressing; turning right, left and about; sizing a squad; marching in quick time, length of pace, time, position; halting; marching, keeping dressing while on the march; marking time, changing step on the march and when marking time; slow march; marching in double time from the half and from quick time and marking time; side step, right and left close march; turning on the march; saluting; dismissing; changing direction when halted and when on the move; platoon drill; company drill; ceremonial drill.

Grade X

Organization, Ceremonial and Deportment—	8 periods
Knots and Lashings—	8 periods
Small Arms Training—	10 periods
Aircraft Recognition—	8 periods
	—
	34 periods
	—

ORGANIZATION, CEREMONIAL AND DEPORTMENT

8 periods

The introductory lessons in the Defence Training Course should establish a high level of discipline and demand of each pupil a standard of behaviour which will ensure the most efficient performance. Every member of the Defence Training group should make himself responsible for the betterment of the local unit.

1. Discipline and Morale:

The significance of discipline and the wearing of the King's uniform; Illustrations of esprit de corps in the present and past history of the British Empire; incidents from the past involving outstanding Canadian and British regiments; Correct attitude toward Rank.

2. Smartness and Steadiness:

Saluting—On parade ground, walking out, delivering a message, passing memorials, encountering bodies of troops; ceremonial for inspection; Guards of Honour; funerals (military); Company falling in (with or without drums); attitude toward the Senior Services.

3. Administrative Organization:

Navy—General organization, steps in rank;
Army—General staff and district sub-divisions, steps in rank;
Royal Canadian Air Force—Air Council, Air Force Commands, steps in rank, Joint Air Training Plan.

4. Recognition of the Ribbons representing Decorations and Service Medals awarded in the British Empire:

Victoria Cross, Distinguished Service Order, Distinguished Service Cross, Military Cross, Distinguished Flying Cross, Distinguished Conduct Medal, British Empire Orders, Military Medal, Distinguished Flying Medal, The Mons Star, Long Service Medals, British Victory Medal, British War Medal, George Cross, George Medal.

5. Heraldry:

Flags and Crests of the United Nations; respect for and proper use of the British and Canadian Ensigns; the evolution of the Union Jack.

REFERENCES:

Current magazine articles
An up-to-date encyclopaedia

KNOTS AND LASHINGS

8 periods

General—Definitions; description of cordage—manilla, hemp, etc.; uses.

Knots and their uses—Thumb or overhead knot, figure-of-eight knot, reef knot, single-sheet bend, double-sheet bend, hawser bend, running knot, bowline.

Hitches and their uses—Clove hitch, timber hitch, half hitches (round turn), sheepshank, fisherman's bend, man harness hitch, catspaw, blackwall hitch, draw hitch, rolling hitch, stopper hitch, magnus hitch.

Lashings and their uses—Frapping turns, whipping a rope, square lashing, diagonal lashing, mousing a hook, fishing a spar.

Splicing and how used—Short splice, long splice, eye splice.

REFERENCES:

Cadet Training Pamphlet, 1942: "Knots and Lashings"
Air Cadet Pamphlet No. 8: "Knots and Splices"
Boy Scout Knot Book—Gilcraft

SMALL ARMS TRAINING

1. Theory of rifle fire. *10 periods*
2. Description of rifle.
3. Mechanism and cleaning—Mechanism, cleaning materials and daily cleaning, loading and unloading.
4. Aiming instruction—Sight setting, rules of aiming, correct aim, common faults in aiming and their effect.
5. Firing instruction—Lying position, kneeling position, trigger pressing, snapshooting, rapid fire, standing orders and range discipline.
6. Range practices and competitions.

NOTE: In schools where facilities are available, range practice should be carried out regularly after school hours in all grades.

Before a cadet is allowed to fire on a range, he should be thoroughly instructed in range discipline and in the correct handling of a rifle. Approximately half the time allotted to Small Arms Training should be devoted to range practices and competitions.

It is assumed that the .22 B.S.A. rifle will be used in the course.

REFERENCES:

Small Arms Training, Vol. I, Pamphlet No. 2
Canadian Army Training Pamphlet No. 1

AIRCRAFT RECOGNITION

8 periods

Aim—To train pupils to identify immediately the more common types of service aircraft, both enemy and allied.

Recognition instruction—Parts of an aircraft, types and classes, national markings and system of identification, salient recognition features of allied and enemy aircraft.

REFERENCES:

Saville-Sneath—"Aircraft Recognition"
Air Pamphlets 1480 A and B
Current magazine articles

CORRELATED SUBJECTS

First Aid

The course in Health Education for Grade X includes the course of instruction that is laid down by the St. John Ambulance Association for a Junior First Aid course. Examinations may be held in the manner prescribed by the St. John Ambulance Association, and certificates awarded to those passing the course. This examination is not to be used for credit in Health and Physical Education.

REFERENCE:

St. John Ambulance—"First Aid to the Injured"—Junior Course

Model Building

Model Building is to be included in the Manual Training General Shop course in Grades IX and X. This course should develop powers of observation in pupils so that they can recognize the main features of army or air force equipment, and by actual construction of models gain a knowledge of the structural features involved in their assembly.

Models and sketches may be studied and constructed under the following headings:

1. Army:

Types of fighting vehicles—tanks, carriers, armoured cars, etc.

Types of mechanical transport—lorries, trucks, tractors, etc.

Types of weapons—guns, howitzers, machine guns, anti-aircraft guns, etc.

2. Air Force:

Non-flying models—gliders and catapults.

Elastic power models; gasoline power models.

NOTE: When it is not feasible to construct the models, diagrams should be drawn or models secured for the purpose of studying their structural features.

REFERENCE:

Current magazine articles

Grade XI

Civilian Protection—	12 periods
Map Reading, Fieldcraft and Woodcraft—	22 periods
	<u>34 periods</u>

Internal Combustion Engines—	12 periods
Signals—	22 periods
	<u>34 periods</u>

CIVILIAN PROTECTION

12 periods

1. General:

Changing character of war.
Corresponding changes in methods of defence.
Importance of maintaining civilian morale and uninterrupted productive work.
Scope of A.R.P. in Britain.

2. Civilian Defence Organization in Canada:

Dominion A.R.P. Committee—powers and duties;
Provincial C.D. Committee (A.R.P.)—officers and duties;
Local C.D.C. Headquarters—Chairman; Vice-Chairman; Secretary;
Controllers—Duties: Controller of Police Services, Controller of Fire Services, Controller of Medical Services, Controller of Public Utility Services, Controller of Transportation Services;
Wardens—Duties: Chief Warden; District, Section, Sector, Post and Service Wardens.
Training—The Basic Course; Special Service Courses—Police, Fire, Medical, Public Utilities, Transportation; Collective Exercises—Co-ordination of Services; The Warning System; Signals—“A.R.P. Yellow, White, Red, Green” (See Handbook No. 6).

3. Incendiary Bombs:

Purposes—Lighting of targets; completing work of H.E. bombs; destruction of large areas; civilian panic.
Typical Kilogram Magnesium Bomb—Drawing and description; dispersal by aircraft; penetration and methods of control.
Water—Reserve supply; description of stirrup pump; practice in its use.
Sand—Smothering of bomb; removal by scoop and hoe.
Chemical Extinguishers—Types; limitations.
Prevention and Control of Fires—Advance precautions; household preparations for fighting fires; measures for personal safety; removal of injured persons.

4. High Explosive Bombs:

Description—Size; weight; fuses.
Types—Anti-personal; demolition; armour-piercing.
Effects—Fragmentation; wind-blast; earth vibrations.
Purposes—Disruption of civilian life; hampering production of war industries; destruction of military objectives.
Protection—Direct hits; splinters and blast; standards necessary for lateral and overhead protection; personal conduct during raid.
Refuge Rooms—Types of rooms adaptable to this purpose; suitable locations; openings; provisions for blackout; necessary furnishings; arrangements for health, comfort and recreation.

5. War Gases:

Definition of the term.
Classifications—Persistent or non-persistent; non-blister—eye, nose, lung irritants; blister gases.
Properties, characteristic effects and identification.
Table of gases.

Purpose of a gas attack. Methods employed in releasing gases.
 Factors influencing the effectiveness of a gas attack.
 Definition of "contamination".
 Methods of protecting food and military supplies against effects of gas.
 Respirators—Types; construction; relative effectiveness; practice in fitting, putting on and removing respirator; treatment of eye-pieces to prevent misting. Essentials regarding proper care of respirators.
 Anti-Gas Clothing—Necessity, description; order of dressing and undressing; methods of decontamination.
 Treatment of refuge rooms to prevent entry of gas.

REFERENCES:

General Training Manual (Ontario Handbook No. 2)
 Air Raid Wardens' Handbook (Ontario Handbook No. 6)
 Basic Training in A.R.P. (British Manual No. 1)
 Practical Guide in A.R.P. (D. Evelyn Thomas)

MAP READING

Nature and Uses of Maps

16 periods

1. Definitions:
 Topographical forms—Basic, col, knoll, spur, etc.; technical terms—bearings, contour, gradients, etc.
2. Conventional Signs:
 Object of conventional signs; nature of conventional signs—roads, railways, church, windmill, etc.
3. Map References and Co-ordinates:
 The Grid system; how to describe a point (co-ordinates).
4. Scales:
 Definition and use of; methods of expressing scale; construction of scales.
5. Bearings:
 True north, Grid north, Magnetic north; conversion of bearings.
6. Relief:
 How to represent hill features; visibility—how to determine if two points on a map are intervisible on the ground.
7. Setting a Map and Finding Position on a Map:
 By compass; by objects; resection (identifying your position on the ground).
8. Use of Compass.
9. Air Emphasis:
 Description of the 8-inch to 1-mile Canadian Air Navigation Maps.
 Marking of Danger and Prohibited Areas.
 The Air aspect of Map Reading, Landmarks.
 Fixing Position by Map Reading.
 Freehand Mapping.
 D.R. Navigation—General Description:
 Measurement of direction in Air Navigation;
 Component Velocities—course, air speed, wind;
 Resultant Velocities—track, ground speed;
 How E T A is calculated;
 How winds vary with places, altitude and weather change—how completed.

REFERENCE:

Notes on Map Reading, 1929—Army Issue

FIELD CRAFT AND WOOD CRAFT

6 periods

1. Means of Finding and Keeping Direction:
Keeping direction while detouring under cover; by compass and map; orienting prominent objects; ways of finding north without compass; getting lost; points of compass; recognition—common trees and shrubs.
2. Seeing, Hearing and Moving by Night:
The value of low ground for observation; the value of preliminary daylight reconnaissance; visual training; training in hearing; movement by night—precautions, keeping contact, intercommunication.
3. Bivouacs:
Cooking, bedding, drainage, water supply, sanitation, personal hygiene, stinging flies and insects.
4. Winter Shelters.

REFERENCES:

Canadian Army Training Pamphlet No. 1
Military Training Pamphlet No. 33

INTERNAL COMBUSTION ENGINES

12 periods

1. Internal Combustion Engine:
Names of components, description and purpose, including the airscrew.
2. Theory of Internal Combustion Engines:
Four-stroke principle; valve operation and timing.
3. Ignition System:
Elementary magnetism; magneto operation and timing; engine ignition system, including switch.
4. Carburation:
Elementary fuel system; elementary carburettor principles.
5. Lubrication:
Oil supply; oil pressure and scavenger pumps; internal oiling system of engine.
6. Engine Performance Instruments and Engine Controls:
Elementary principle of operation and the use of the following instruments—R.P.M. indicator, oil temperature and pressure gauge, engine controls.
7. Airscrews:
Elementary airscrew theory; description of operation of variable pitch and common pitch airscrew.

REFERENCES:

Internal Combustion Engines—Army Issue
Aircraft Engine Maintenance, D. J. Brimm and E. H. Boggess (Pitman).

SIGNALS

22 periods

The course in this grade is intended to provide instruction in the general organization and operation of the Signals Branch of the Army and the Air Force. The Morse Code should be learned in this grade and suitable tests should be given to determine the aptitude of the pupils to proceed to a more advanced course in Grade XII. It is suggested that each period include a short lesson in organization and operation, and that the remainder of the period be devoted to practice in sending and receiving the Morse Code by buzzer and lamp.

Grade XII

Civilian Protection and First Aid— or Signalling	22 periods
Army Specialization—	12 periods
	<u>34 periods</u>
Navigation—	16 periods
Airframes—	12 periods
Theory of Flight—	6 periods
	<u>34 periods</u>

CIVILIAN PROTECTION

6 periods

Review of Basic Course with emphasis upon practical rather than theoretical knowledge (e.g., how to fit respirators; advising householders concerning refuge rooms; handling a stirrup pump).

1. A.R.P. Warden Service:

- (a) General—importance as a link between the public and the local A.R.P. organization; qualities essential in an efficient warden—courage, coolness, speed, initiative, observation; compilation of a “Warden’s Directory”—names and addresses of local C.D.C. officials; location and telephone numbers of C.D.C. headquarters, wardens’ posts, first-aid posts, and special posts; location of police and fire-boxes; location of hospitals, doctors’ offices, and homes, drug stores, ambulance services, etc.; telephone numbers of local police stations, fire-halls, offices of public utilities (water, electricity and gas); badges, arm-bands and identification card.
- (b) Duties of the Police, Fire, Medical, Public Utilities, and Transportation Wardens.
- (c) Manning a Warden’s Post—equipment, routine and records, communications, co-operation between services.
- (d) Reconnaissance and intelligence; message writing and reporting.
- (e) Blackout rules; warden’s duties during blackouts.

2. The School as a Warden’s Post:

- (a) A survey of the school building with a view to deciding which part would give the most protection from blast, collapse of structure, falling debris, and gas; exits.

- (b) Plans for action during a raid; disposition of classes.
- (c) Warning system—Signals should be independent of bell system.
- (d) Control—establishment of posts for policing, fire fighting, first aid, messenger service; control centre—communication with the local A.R.P. headquarters and the various posts within the school.
- (e) Evacuation plans.
- (f) How panic may be avoided—careful planning, practice in performing duties, provisions for entertainment during a raid.

3. School Warden Service:

It is suggested that teachers and senior pupils organize a definite A.R.P. unit. Pupils should be assigned to one of the following services. Four or five periods will be required for the training in each. The place of each group in the regular C.D.C. organization should be studied, but, as far as possible, this information should be related to the work required from the group in the school A.R.P. unit.

(a) Police—

Characteristics of a good police officer—loyalty to authority, discipline, keenness of powers of observation, sound knowledge of his authority and duties, tact in controlling others;

Patrol duties—intimate knowledge of his sector; co-operation with headquarters, other services and wardens in adjoining sectors;

Traffic control; National Registration Regulations; sabotage; rules and their enforcement; practice in observing and reporting.

(b) Fire—

General behaviour at fires; use of hose, stirrup pump, fire-extinguishers, tools and simple apparatus; water supply; rescue work; plans for emergencies.

(c) Medical—

First-aid post manned by supervisor; trained nurse, if possible; several pupils having St. John certificates; stretcher-bearers; secretary.

It should be arranged that a doctor be available in case of emergency.

Nurse would oversee the keeping of the inventory of supplies, would supervise all treatments, and administer hypodermics when prescribed.

The secretary, under the direction of the nurse, would keep lists of clothing and supplies, and record all casualties treated, with details of medication and disposition of each case.

Practice should be afforded in the operation of the post.

(d) Transportation—

Possible requirements during air raids; moving people, supplies, or equipment; evacuation of school children, etc.; organization of messenger service for the school and of a bicycle brigade to assist the local C.D.C.

4. Group exercises:

Mobilization practice; report centre and warden post in action; use of instruction cards and incident cards; reports from the Services.

FIRST AID

16 periods

The course of instruction is that laid down by the St. John Ambulance Association for a Senior First Aid Course. Examinations will be held in the manner prescribed by the St. John Ambulance Association, and certificates will be awarded to those passing the course.

Principles of First Aid; structure and functions of the body; shock; dressings and bandages; fractures; injuries to joints and muscles; circulation of the blood; wounds and haemorrhage; haemorrhage from special regions; the respiratory system; the nervous system; insensibility; poisons; miscellaneous injuries; routine examination of a patient; preparation for reception of accidents; transport of injured persons.

REFERENCES:

Air Raid Wardens' Handbook No. 6

Police Services Handbook No. 3

Fire Services Handbook No. 4

Medical Services—First Aid to the Injured (St. John Ambulance Association)
Home Nursing (Canadian Red Cross Society)

Emergencies in War (Canadian Red Cross Society)

Public Utilities and Transportation Services Handbook No. 5

Tactical Training in A.R.P.—S. Evelyn Thomas.

SIGNALS

22 periods

The course in Signalling in Grade XII should be offered only to those pupils who have completed satisfactorily the course for Grade XI, and have indicated some aptitude for this type of training. An option is provided (Civilian Protection) for those who do not take the advanced course in Signalling. The instruction having to do with telegraphic instruments should be co-ordinated with the instruction in electricity in the science course.

Knowledge of instruments: Lamp, telephone, telegraph, lines, switch-board, cable work and knots, jointing.

Reading and sending test: Buzzer—up to 6 words a minute;

Lamp—up to 4 words a minute.

Procedure: Message form and elementary procedure for visual and line telegraphy.

ARMY SPECIALIZATION

12 periods

1. Survey of the history, function and organization of:
 - (a) The fighting arms—armoured troops, artillery, engineers, infantry, signals, aeroplane.
 - (b) The administrative services—"G" branch, "A" branch, "Q" branch, "M.G.O." branch.
 - (c) The auxiliary services—operation separate from the army.
2. Weapons and vehicles—a summary of the approximate establishment of the various fighting arms with special reference to the equipment of an infantry battalion and a company.
3. The effect of mechanization on modern military tactics—co-operation between services, supply and maintenance of equipment, specialists and tradesmen.

NAVIGATION

16 periods

1. The Earth:
Position; latitude and longitude; axis and poles (true and magnetic); great circle and equator; true meridian, prime meridian; longitude change or difference of longitude; latitude change or difference of latitude; great circle track, rhumb line track; nautical mile (n.m.), statute mile (m.); problems in conversion relative to the above.
2. Air Navigation Directions:
Measurement from meridian (true, magnetic, or compass); true meridian and magnetic meridian; magnetic variation; magnetic course; problems relating to the above.
3. Deviation:
Causes; compass meridian and compass course; problems relating to the above.
4. Bearings:
Define bearings of an object—true, magnetic, and compass bearings; conversion problems relating to the above; definition of relative bearing; problems relating to the above.
5. Triangles of Velocities:
Vector diagrams to scale; simultaneous velocities relative to aircraft; standard symbols to denote course, direction, and track; drift—definition and how measured; wind direction and wind speed with symbols; problems relating to the above.

REFERENCES:

Air Pamphlet 1234
Précis supplied by R.C.A.F.

AIRFRAMES

12 periods

1. The Airframe:
Names, description and purpose of—
Fuselage, mainplanes, control surfaces, undercarriage.
Primary types—
Biplane, monoplane, high wing and low wing, single and multiple engine.
2. Airframe Construction:
Construction and materials used in the following components—
Mainplanes, fuselage (girder-braced and semi-monocoque types);
Comparison between mainplane and control surfaces;
Elementary principle of undercarriage shock absorbers.
3. Theory of Flight:
How flight is obtained; elementary stability; control.
4. Flying Controls:
Outline of the aileron, elevator and rudder control system;
Outline of trimming tab controls.

5. Hydraulic System:
The purpose and principle of a hydraulic system;
Description and explanation of a simple hydraulic undercarriage system.
6. Aircraft Performance Instruments:
Brief outline of the construction and principle of operation of the following instruments—
Altimeter; air-speed indicator, including pressure head; any air-driven gyroscopic instrument, including venturi; compass.
7. Rigging:
Brief explanation of the rigging of the various components of the airframe.

REFERENCES:

Aircraft Maintenance—D. J. Brimm & E. H. Boggess (Pitman)
Air Cadet Pamphlet No. 11, "Airframes".

THEORY OF FLIGHT

6 periods

Introduction; aerofoils and airflow; stability; controls; arrangement of surfaces; straight flight, level, climbing; gliding; turning; taking off and landing; aerobatics and spinning.

REFERENCES:

Air Pamphlet 129
Air Cadet Pamphlet No. 10, "Theory of Flight".

OUTLINE OF COURSE FOR GIRLS

Grade X

- | | |
|--|---|
| 1. Military Organization— | 8 periods (See boys' course, Grade X). |
| 2. Aircraft Recognition— | 8 periods (See boys' course, Grade X). |
| 3. Knots and Lashings
and
Small Arms Training— | 18 periods (See boys' course, Grade X). |
| or
Campcraft. | |
| | —
34 periods |

Campcraft

1. Means of Finding and Keeping Direction: by landmarks; by compass and map (points of the compass); ways of finding north.
2. Fires:
Kinds—cooking, heat, light, ceremonials, signals, night fire.
Place—shelter, draft, foundation, safety.
Fuels—
For lighting—tinder, e.g., bark, needles, etc.
For maintenance—woods—choice, where found, adequate supplies.
3. Axemanship:
Safety precautions—when not in use, when in use.
Skills—logging, splitting, lopping, shaving (tinder).

4. Shelters:
Types—protection (food supplies, equipment); points to consider in location of each; natural shelters; constructed shelters—materials, methods of construction.
5. Packs:
Kinds—food, first aid, equipment, personal supplies; contents—minimum requirements; packing.
6. Food:
Stores—staples, quantities, sources of supply.
Storage—larders, caches.
Water supplies—analysis, sterilization.
Cooking—
Utensils—ready-made and improvised;
Menus—in camp, on hikes, on trips.
Disposal of waste—refuse pit, incinerators, grease pit.
7. Sanitation:
Washing; toilets; disposal of waste; disinfection.
8. Miscellaneous:
Hints—
Cleaning, drying of equipment, bedding and personal clothing;
lighting—methods, safety; gadgets, natural shelves, racks, etc.
First aid—
The kit—its contents, location; treatments for emergencies.
Weather lore.
Personal responsibility of a camper—
Prevention of forest fires; care of camp-site; co-operation.

Grade XI

Civilian Protection—	12 periods
Physiology—	2 periods
Healthful Living—	20 periods
	<hr/> 34 periods

NOTES:

- (1) The above course is for girls in schools where the boys and girls can be taken in separate classes. One period a week is to be devoted to this course, and three periods a week to physical education.
- (2) In schools where boys' and girls' classes are taken separately and where it is impossible to arrange three periods a week in physical education on account of lack of facilities, the Principal will provide an additional period a week in defence training, selecting topics from the boys' course in this subject.
- (3) Where the boys and girls cannot be taken separately, the Principal may follow the course in defence training as outlined for the boys. The boys' course requires two periods a week. The other two periods are to be devoted to physical education.

Civilian Protection

For the details of this subject, refer to the boys' course for Grade XI.

Physiology

The Nervous System

1. The function of the nervous system:
Communication; co-ordination.
2. The structure and function of the parts of the nervous system:
Nerve cell; cerebro-spinal system—brain, spinal cord, nerves—motor, sensory; autonomic system.
3. The health of the nervous system:
Effect of nutrition, exercise, sleep and rest, fatigue, alcohol, drugs.

Healthful Living

Objectives:

- (1) To consider the factors contributing to living successfully.
- (2) To gain an understanding of people and why they behave as they do.
- (3) To develop insight, understanding and knowledge of one's own conduct and personality (including strong points and limitations).
- (4) To set up worthy standards of conduct for application in daily living.
- (5) To practise the use of these standards in daily living.

1. The Meaning of Successful Living:
Physical health; economic independence; satisfying forms of recreation; satisfying social relationships; a philosophy of life.
2. The Nature of Development:
Basic needs—physiological, mental, emotional; result of satisfaction of basic needs; result of lack of satisfaction of basic needs.
3. Work:
The meaning of work; the importance of work in a life plan.
Types of work—
Business, journalism, teaching, medicine, nursing, war services, social service, home making, arts, industry, school work, etc.
Choosing a vocation—
Capacities; skill and aptitude; society's need of the work; satisfaction.
Attitudes essential to success in work—
Interest, self-confidence, perseverance, concentration, belief in one's service to society, creative effort, doing more than has to be done, high standards.
How to apply for work.
4. Recreation:
The meaning of recreation; the importance of recreation in a life plan.
Types of recreation—
Passive—motion pictures, radio, motoring, watching athletic competitions, etc.
Active—tennis, badminton, archery, golf, gardening, reading, discussion, camping, photography, meditation, etc.
Choosing suitable recreation—
Recreation suited to age, season, economic status, health, etc.
Recreation as a relief from work.
Essentials to success in recreation—
Satisfactory work, skill, interest, creative effort.

5. Social Adjustment:

Growing up emotionally—

Control of emotions—fear, anger, worry, affections, etc.; determining conduct by consideration of facts rather than prejudices, superstitions, and standards of other people; rationalization.

Getting on with people—

Interest in people; interest in the world about us; friendliness; willingness to learn from others; belief in others; being a good leader and a good follower.

Living happily with your family—

Gaining independence; courtesy in family relations; responsibilities to the family.

Associating happily with boys—

Being attractive; entertaining boys; keeping a boy's friendship; love; attitudes towards smoking and drinking.

Being a good citizen—

Respect for law and authority—

At school—school regulations, rules in games and on playground, self-government.

In the community—traffic regulations, health laws, etc.

Responsibilities and privileges—

At school—care of facilities, opportunity to learn, opportunity to make friends.

In the community—voting, being informed in political matters, paying taxes, holding office.

Support of group activities—

At school—clubs, concerts, teams, etc.

In the community—religious and political institutions, social agencies.

6. A Philosophy of Life:

The need for a philosophy—

As an explanation of the universe in which one lives; as a driving force in success or in adversity.

The essentials in a philosophy—

Usefulness as a guide; well-defined goal; growth and flexibility; faith in the goodness of life.

7. Conclusion:

The essentials in successful living—

Work; recreation; social adjustment; philosophy of life.

Grade XII

Internal Combustion Engines—	7 periods
First Aid—	15 periods
Home Nursing—	12 periods
	<u>34 periods</u>

NOTES:

- (1) The above course is for girls in schools where the boys and girls can be taken in separate classes. One period a week is to be devoted to this course and three periods a week to physical education.
- (2) In schools where boys' and girls' classes are taken separately and where it is impossible to arrange three periods a week in physical education on account of lack of facilities, the Principal shall provide an additional period a week in defence training, selecting topics from the boys' course in this subject.
- (3) Where the boys and girls cannot be taken separately, the Principal may follow the course in defence training as outlined for the boys. The boys' course requires two periods a week. The other two periods are to be devoted to physical education.

Internal Combustion Engines

For the details of this subject, refer to the boys' course for Grade XI.

First Aid

1. The meaning and principles of First Aid.
2. The qualifications and responsibilities of the First-Aider.
3. First Aid equipment:
The kit—contents, use; substitutes.
4. Techniques:
Knots; the application of slings, splints and pads, dressings; the cleansing of wounds.
5. Shock:
Symptoms; treatment; the result of negligence.
6. Bandages:
Types—four-tailed, roller, triangular.
The use of the triangular bandage—
As slings—small arm, large arm, St. John; to keep a dressing in place—scalp, face, shoulder, hip, hand, foot, back, chest, elbow, knee.
7. Wounds:
Types of wounds—incised, lacerated, contused, punctured; treatment.
8. Haemorrhage:
Types and recognition—
Arterial bleeding, capillary bleeding, venous bleeding.
The location of pressure points.
Treatments—
By digital pressure; by the tourniquet.
Special cases of haemorrhage.
9. Fractures:
Varieties, causes, symptoms.
Treatment—
General; special cases—skull, spine and pelvis, thigh bone, upper arm, etc.
10. Injuries to Joints and Muscles:
Types of injuries—dislocations, sprains, strains and ruptures; causes; symptoms; treatment.
11. Insensibility:
When breathing is absent (asphyxia)
Causes—
Obstruction of air passages; inhalation of gases; pressure on chest; nervous affections.
Symptoms.
Treatment—
Artificial respiration—Schafer, Silvester; additional treatment for special cases.
When breathing is present
With convulsions—
Types—epilepsy, hysteria, infantile convulsions, some poisons.
Symptoms; treatment.

With no convulsions—

Types—injuries to the head, shock, fainting, sunstroke, heat-stroke, diabetes.

Symptoms; treatment.

12. Poisons:

Entry—

By mouth; by inhalation; by injections under the skin—by bites, stings or narcotics.

Types—corrosives, irritants, narcotics.

Symptoms; treatment; antidotes.

Special cases—lysol, phosphorus, alcohol, strychnine, phenol, opium, corrosive sublimate, prussic acid, potassium cyanide.

Home Nursing

1. Health in the Home:

Home hygiene; health habits.

2. The Signs of Sickness:

The importance of early recognition; when to call the doctor; temperature; pulse; respiration.

3. The Care of the Patient:

Feeding; bathing; elimination; care of mouth, teeth and hair; prevention of bed sores; rest and visitors.

4. Feeding the Sick:

Food requirements; diets; importance of water; methods of serving.

5. Treatments:

Medicine.

Other treatments such as—

Hot-water bottle; steam inhalation; stupe; poultice; mustard plaster; compresses; enema; douches.

6. Communicable Diseases:

Disease germs; methods of spread; importance of early signs; methods of prevention; isolation.

7. Infant Care:

Clothing; daily programme; recreation.

8. Maternity Nursing:

Pre-natal care; the mother's preparation; the home nurse's preparation.

HEALTH EDUCATION COURSE

in

Grades IX and X

Objectives

To provide a working knowledge of the structure, functions and hygiene of the body; to develop attitudes favourable to the practice of healthful living; to establish habits and principles of healthful living which will lay the foundation for the greatest possible happiness and service in personal, family and community life.

Principles

The content of this course should be related to the life experiences of the pupils, e.g., posture, clothing, school lunches, etc.

Anatomy and physiology should be taught as a background for the presentation of the hygiene of the body. Technical terms should be used only where necessary.

This course should be presented in a room equipped with visual aids such as charts, models, a lantern or reflectoscope, and an adequate range of reference books.

Wherever possible, the material presented in this course should be correlated with other subjects in the curriculum.

OUTLINE OF COURSE

Grade IX

Time allotment: Health Education—one period a week.

Health and Safety

1. Introduction to the Course in Health Education (3 periods).

The meaning and importance of good health; in enjoying life; in getting an education; in earning a living.

The signs of good health:

Physical:

Skeletal growth, muscles, organic functioning, skin, teeth, hair, eyes, ears, tongue.

Mental and emotional:

Ability to face facts, to concentrate, to think clearly; attitudes of cheerfulness, self-control, self-confidence; freedom from fear and self-consciousness.

Social adjustment:

Ability to live with others; normal relationships with family, with friends of both sexes; responsibility to groups of which one is a member.

The attainment of good health:

A knowledge of the nature of man, e.g., his physical, mental and social characteristics.

A knowledge of the factors contributing to healthful living.

The practice of healthful living.

2. Body Mechanics (10 periods).

Framework of the body:

Bones—function, types, composition, parts of the skeleton, essentials for growth and development.

Joints—types, motion in joints, structure, ligaments.

Organs of movement:

Muscles—types, function, attachments, tendons, muscles and nerves.

Effects of food, exercise, fatigue, rest.

Posture:

Good posture—standing, walking, sitting, lying, dancing, playing games.

Poor posture—common defects, causes, improvement.

The feet—structure, hygiene, e.g., bathing, exercise, shoes.

3. The Skin, Hair, Nails (6 periods).

Skin—structure, function, hygiene, e.g., nutrition, circulation, bathing, clothing, fresh air and sunshine, cosmetics.

Hair—structure, care, e.g., brushing, shampooing, grooming.

Nails—structure, care.

4. The Eyes (2 periods)—Importance of good eyesight; structure of the eyes; function of the eyes; defects and correction of vision; care of the eyes—nutrition, lighting, avoidance of strain, protection from dust and glare, regular examination.

5. The Ears (1 period)—Importance of normal hearing; structure of the ears; function of the ears; care of the ears—avoidance of injury, protection when diving and swimming, care during a cold, early recognition of defects.

6. The Teeth (2 periods)—Importance of good teeth; structure of the teeth; function of the teeth; defects and their causes—caries, pyorrhea; care of the teeth—nutrition, cleaning, regular examination.

7. Safety (10 periods).

Accidents and their causes:

The human factors—ignorance, carelessness, selfishness, impatience.

Accidents and their prevention:

(i) In the home—falls; fire, electricity, gas, cleaning fluids; poison.

(ii) In the school—fire regulations, equipment and drill; the shops and laboratories; the playground; the gymnasium; the swimming pool.

(iii) On the street and highway—

Pedestrian, driver and bicycle rider: health and fitness;
knowledge and observance of traffic regulations;
courtesy and common sense.

The highway: safe construction; safety measures.

The motor car: safe construction; dangers of carbon monoxide
gas poisoning.

(iv) In recreational activities—

Seasonal: swimming; boating; camping; hunting; activities
on ice.

Special occasions: Christmas; New Year's Eve; Victoria
Day; Hallowe'en.

Public buildings: the dangers of panic; safety measures.

(v) In industry—

The responsibility of the employer: construction of factory;
protection of machinery; adequate facilities for rest and
recreation; enforcement of safety regulations.

The responsibility of the employee: to observe and respect
safety rules; to keep physically fit.

The organization of society for the promotion of safety:

(i) Local—police protection; fire protection; traffic regulations;
supervision of beaches and playgrounds.

(ii) Provincial—police protection; fire protection; highway regu-
lations; protection for industrial workers.

(iii) Federal—police protection; fire protection; safety regulations—
on waterways, on railroads, on airways, on highways;
the control of the sale and use of firearms; the control of
narcotics.

Grade X

Physiology—	14 periods
Nutrition—	10 periods
First Aid—	10 periods
	<u>34 periods</u>

Physiology

1. Circulatory System (4 periods):

The meaning and purpose of circulation.

The organs of circulation and the functions of each—

Heart, lungs, arteries, veins, capillaries.

The blood—composition, functions, amount.

The circulation of the blood.

The hygiene of good circulation—

Rest and sleep, regular exercise and good posture, avoidance of
overstrain, calmness and poise, adequate nutrition, effects of
alcohol and tobacco, avoidance of infection of the heart tissues
through disease.

Anaemia.

Heart conditions.

2. Digestive System (5 periods):

The meaning and purpose of digestion.

The organs of digestion and the functions and care of each—

- Mouth, teeth, pharynx, esophagus, stomach, small intestine, large intestine.

Factors which promote or retard digestion—

Exercise and recreation, happiness, care in diet, fatigue, worry and irritability, unwholesome foods.

The importance of correct eating habits—

Avoidance of overeating or undereating; avoidance of alcohol, tea, coffee.

Constipation and use of laxatives.

Appendicitis.

3. Respiratory System (4 periods):

The meaning and purpose of respiration.

The organs of respiration and the functions and care of each—

Air passages, lungs, respiratory muscles.

The breathing process—inspiration, expiration.

The air we breathe—composition of air, fresh and foul air.

The hygiene of respiration—

Breathing through the nose, muscular action in breathing, respiratory exercises, abdominal, chest and natural breathing.

Common diseases of the respiratory tract—

Tuberculosis, common cold, influenza, industrial diseases.

4. Ventilation (1 period):

Requirements of good ventilation—temperature, humidity, air motion.

Methods of obtaining good ventilation.

Nutrition

1. The meaning of nutrition.

2. The importance of nutrition:

Physical fitness; mental fitness.

3. The relation of food to nutrition.

4. The essentials of an adequate diet to provide nutrition:

Construction and repair of body tissue; energy to the body; regulation of body processes; protection against disease.

5. The sources of food nutrients that supply the essentials of an adequate diet:

Proteins, carbohydrates, fats, water, mineral matter, vitamins, bulk.

6. The factors affecting the selection of food nutrients for an adequate diet:

Occupation, age, exercise, sex, season.

7. Economic aspects of foods in an adequate diet:

Energy foods, milk and cheese, fruits and vegetables, meats, fish, poultry and eggs, good nutrition at different levels of expenditure.

8. Psychological aspects of foods in an adequate diet:

Food likes and dislikes; suitable presentation—attractive arrangement, colour, textures, well prepared; food fads; dieting.

9. Nutrition in wartime:

Canadian foods; how to avoid waste; salvage; rationing.

First Aid

1. Objective:

To prepare the individual to give immediate temporary treatment in case of accident or sudden sickness before medical service can be obtained.

2. Techniques:

Dressings; bandages—the roller, the four-tailed, the triangular; as slings—small, large, St. John; to keep a dressing in place—scalp, face, elbow, hand, knee; methods of carrying injured persons.

3. Shock:

Symptoms, treatment, importance of treatment.

4. Haemorrhage:

Pressure points, direct pressure, indirect pressure.

5. Fractures:

Causes and recognition; treatment—with wound; without wound—collar-bone, upper arm, forearm, hand, thigh, leg.

6. Insensibility:

Causes—drowning, inhalation of gases, electric shock.

Symptoms.

Treatment—artificial respiration (Schafer method).

7. Injuries due to heat or cold:

Types—acids and bases; scalds; frost bite; burns—dry heat, electricity, friction.

Symptoms.

Treatment.

8. Common Emergencies:

Types—sprains, dislocations; foreign body in eye, ear, throat, skin; miscellaneous—blisters, nose bleed, appendicitis.

Symptoms.

Treatment.

PHYSICAL EDUCATION COURSE

in

Grades IX, X, XI and XII

Objectives

- (1) To promote the normal development of the pupil through wholesome physical activity.
- (2) To attain the physiological objectives of organic vigour, joint mobility, muscular strength and co-ordination through a graded programme of physical activities.
- (3) To develop a variety of recreational skills which will be continued in leisure time during school years and in adult life.
- (4) To promote habits of good citizenship in pupils through situations that arise in the activity programme.
- (5) To follow the instructions of the medical service for the correction of physical defects.

Principles

- (1) A medical examination of every pupil should be made at regular intervals in order to grade pupils for the physical activity programme and to safeguard their health.
- (2) An orthopaedic examination of all pupils should be made at the beginning of each academic year.
- (3) The activities of the programme should be based upon the sex, needs, interests and capacities of the pupils.
- (4) Pupil leadership should be used as much as possible and distributed as widely as possible, as a means of developing self-discipline and self-reliance.
- (5) The programme should be carried on out-of-doors whenever the weather and facilities permit.
- (6) Inter-school leagues are not recommended for girls. Such competition can be justified only under the following conditions:
 - that it does not monopolize the school recreational facilities and the teachers' time and interest;
 - that every pupil in the school has adequate opportunity to participate in intra-mural games.
- (7) The instructor in physical education should be responsible, under the direction of the Principal, for the curricular and extra-curricular programme in physical education.
- (8) Properly supervised recreation, shared by boys and girls together, should be promoted in such activities as badminton, tennis, ballroom and folk dancing.
- (9) Pupils should wear suitable costumes for the activity programme.

THE GRADED ACTIVITY PROGRAMME FOR BOYS

ALL YEAR ROUND

Gymnastics

Marching; exercises; general activity—tumbling, stunts, pyramids; heavy apparatus—horse, vaulting box, buck, low bar, wall bars, forms, ropes.

Games

Low organization: team—volleyball; hit-pin baseball; lead-up games for lacrosse, basketball, hockey, rugby; individual—deck tennis, table tennis; handball.

Swimming

Strokes—crawl, back crawl, back, side, breast; diving—plain header, jack-knife, back, surface, racers' plunge; games; land drill; life saving—emergency measures.

Outdoor Activities

Hiking, campcraft, nature lore.

AUTUMN OR SPRING TERM

Games

Team—baseball, cricket, lacrosse, soccer, touch rugby; individual—tennis, quoits; track and field—Grade IX—100-yard dash, $\frac{1}{4}$ -mile relay, 90-yard low hurdles (7), high jump, broad jump, hop, step, and jump, cross-country run (not more than 2 miles). Grade X—120-yard low hurdles, 8-lb. shot, pole vault, additional instruction in Grade IX events.

WINTER TERM

Games

Team—basketball, hockey, indoor hockey; individual—boxing, wrestling, fencing.

Outdoor Activities—winter sports.

OUTLINE OF COURSE FOR BOYS

Grades IX and X

Basic Drill (See Defence Training Course)

Gymnastics

1. Exercises:

Teachers should prepare a minimum of three gymnastic tables for each grade, and the exercises should be selected from any of the books listed under this section. The following sequence of exercises is suggested as a guide:

Leg, arm, and neck movements; trunk movements (lateral, abdominal and dorsal); special movements—posture, in pairs, relaxation or balance, foot exercises; step march, leg or easy jump.

2. General Activities:

The following apparatus exercises, arranged in teaching order, are considered suitable for pupils in Grades IX and X. It may not be possible to teach all these activities to all classes, and where this is the case a suitable selection should be made from each section.

(1). Tumbling, Stunts, and Pyramids.

(a) Individual—forward rolls with variations; backward rolls with variations; diving with forward rolls; head stand with variations; chest rolls; tension drop; cartwheel and round off; head springs; hand springs; upstarts with variations; short combinations of voluntary movements (i) front dive, twist and backroll, (ii) tension drop, jump through hands, back roll passing through handstand position; stunts.

- (b) Couple—double rolls forward and backward; elephant walk (with rider); cradle rock; back to back, lock hands and roll over; hand-stand with assistance; thigh mount; mount to stand on shoulders; knee shoulder hand springs; knee shoulder hand balance; mount to standing balance on feet; ankle throws (pull up from floor); stunts.
- (c) Group—diving with front rolls in groups of three; fundamental pyramid positions in threes, fours, fives; easy combinations, the three-man fan, human bar, etc.; pyramids—large groups in various combinations.

(2). Heavy Apparatus:

- (a) Vaulting horse (without pommels)—easy mounts and dismounts; vaults—flank, front, wolf, screw, rear, squat, courage; pyramids; stunts.
- (b) Buck—running straddle vault, both hands, for distance and with turns; running straddle vault with one hand; kneel on, jump off (courage vault); jump to stand on; high front vaults, left and right; pyramids; stunts.
- (c) Low bar—fence vault; skin the cat; underswing with variations; back circle to front rest; forward circle; inverted hang, pull up to side seat; single knee circles, backward and forward; crotch circle; stunts.

Games and Athletics

1. Games of Low Organization.
2. Team games, and track and field athletics.

These games and events will vary with local conditions but are subject to the grade placement of activities previously outlined. The teacher should recognize that the enjoyment of playing the game is the primary objective, and the teaching of skills should be made to contribute to this end. “Lead-up” and practice games should be worked out for each activity.

Swimming

The course in swimming must be adapted to local conditions. The primary objective is that every pupil may learn to swim. The number of beginners in the class will determine when and to what extent other exercises, such as diving and life-saving, may be taught.

In schools where there are no swimming facilities, systematic instruction and drill on land should be given so that pupils will have a basis for practice when making use of natural facilities. All pupils should be trained to discriminate between safe and unsafe swimming conditions.

Grades XI and XII

Basic Drill (See Defence Training Course)

Gymnastics

1. Exercises.

Gymnastic training is fundamental in a programme of physical education and should lay a foundation of physical fitness on which other recreational and rhythmic activities can be built. Teachers should prepare a minimum of three gymnastic tables for each grade, and the exercises should be selected from

any of the books listed under this section. These exercises should show a progression from the easy to the difficult throughout the year, so that the monotonous repetition of known movements is avoided, and the pupils are encouraged to accomplish more advanced work. The following sequence of exercises is suggested as a guide:

Leg, arm and neck movements; trunk movements (lateral, abdominal and dorsal); special movements—posture, in pairs, relaxation or balance, foot exercises; step march, leg or easy jump.

2. General Activities:

The following apparatus exercises, arranged in teaching order, are considered suitable for pupils in Grades XI and XII. It may not be possible to teach all these activities to all classes, and where this is the case a suitable selection should be made from each section. The safety teaching of Grade X should be emphasized in these grades where the hazards increase with the difficulty of the movement. The pupils should be made to appreciate the dangers of working upon apparatus without safety men in position to protect them from falls. The responsibility should be placed on the performer to wait until these men are properly stationed before attempting any movement.

(1) Tumbling, Stunts and Pyramids. Review Grades IX and X.

(2) Heavy Apparatus.

(a) Vaulting horse (without pommels). Review Grades IX and X.

(b) Buck. Review Grades IX and X.

(c) Low bar. Review Grades IX and X.

(d) Pommel horse—Mounts and dismounts; vaults—flank, front, wolf, screw, rear, squat, courage; front and rear scissors from cross-riding seat; front rest, easy leg circles; neck spring; side scissors in saddle; short combinations of voluntary movements; pyramids; stunts.

(e) Parallel bars—Travel—cross support, walk, jump; outside seats; straddle seats; mounts—side and end; dismounts—side and end; front and rear vaults with turns; shoulder rolls and stands; cut-offs with variations; upstarts; short combinations of voluntary movements; pyramids; stunts.

(f) High bar—"Skin the cat"; inverted hang, pull up to side sitting position on the bar; chin the bar; side hang, jump to change of grasp; back circle to front (rest) support; single knee swing up; long underswing from front (rest) support; single knee circles, forward and backward; crotch circles forward and backward; swinging in the hang position and fundamentals of the upstart; pyramids; stunts.

(g) Wall bars, forms and ropes. Review Grades IX and X.

Games and Athletics

1. Games of Low Organization.

2. Team Games.

The following games will vary with local conditions, but as a general rule the outdoor programme of the fall term should not be repeated in the spring. The teacher should recognize that the enjoyment of playing the game is the primary objective, and the teaching of skills should be made to contribute to

this end. "Lead-up" and practice games should be worked out for each activity. Volleyball; hockey; baseball; lacrosse; touch rugby; basketball; indoor hockey; cricket; soccer.

3. Individual Games.

In the senior grades, individual games assume greater importance, as it is these games which are continued in adult life.

Badminton; deck tennis, table tennis; handball; tennis; quoits or horse-shoes; boxing; wrestling; fencing.

4. Track and Field Athletics.

Review Grades IX and X with these additional events:

High hurdles; javelin throw; hurling the discus; cross-country run (not more than four miles).

Swimming

The course in swimming must be adapted to local conditions. The primary objective—that every pupil may learn to swim—should have been accomplished by the end of Grade X. In Grades XI and XII emphasis should be placed on perfection of strokes, additional dives, water safety, and life-saving methods and procedures.

In schools where there are no swimming facilities, systematic instruction and drill on land should be given in life-saving methods and water safety.

1. Strokes:

Crawl; back stroke; breast stroke; back crawl; side stroke; the life-saving kick.

2. Diving:

Plain header; back; racers' plunge; jack-knife; surface.

3. Games.

4. Land Drill.

5. Life Saving—emergency measures.

Outdoor Activities

Hiking; nature lore; campcraft; winter sports.

Social Dancing

Social dancing may be included in the Physical Education programme. Instruction in fundamental steps, positions and deportment will afford the pupil much pleasure and social profit throughout his lifetime. This instruction should be carried over into after-school gatherings.

REFERENCE BOOKS:

Gymnastics

1. Exercises:

Pederson, Richard, and Andreassen, Alfred: Primary Gymnastics for Boys—P. E. Publications, 54 Mitre Road, Glasgow, W.4, Scotland
McDowell, Thomas: Gymnastic Movements—Oxford University Press (Clarke, Irwin & Co., Ltd.)

Board of Education: Reference Book of Gymnastic Training for Boys—His Majesty's Stationery Office, London, England (Wm. Dawson Subscription Service)

2. General Activities:

McCulloch, W. B.: *Gymnastics, Tumbling and Pyramids*—W. B. Saunders Co., Philadelphia

Hawkin: *Gymnastic Pyramids*—Oxford University Press (Clarke, Irwin & Co., Ltd.)

Harby, S. F.: *Tumbling for Students and Teachers*—W. B. Saunders Co., Philadelphia (1932)

Machery and Richards: *Pyramids Illustrated*—A. S. Barnes & Co. (George M. Hendry Co., Ltd.)

Zwarg, L. F.: *Tumbling and Apparatus*—John McVey, 1229 Arch St., Philadelphia

Games and Athletics

Staley, S. C.: *Games, Contests and Relays*—A. S. Barnes & Co. (George M. Hendry Co., Ltd.)

Mason and Mitchell: *Active Games and Contests*—A. S. Barnes & Co. (George M. Hendry Co., Ltd.)

Brandreth, W. G.: *Canadian Book of Games*—Ryerson Press

Lambert, Ward: *Practical Basketball*—Athletic Journal Publishing Co., 6858 Glenwood Ave., Chicago

Holman, Nat.: *Winning Basketball*—Charles Scribners' Sons (1932)

Fonseca, Lew: *Baseball*—Great Western Athletic Goods Co.

Fareaga: *Volley Ball—A Man's Game*

Spalding Handbooks for various games—A. G. Spalding & Bros. of Canada, Ltd.

Periodicals: *The Scholastic Coach*—250 East 43rd Street, New York City;
The Athletic Journal—6858 Glenwood Ave., Chicago

Mitchell, E. D.: *Sport for Recreation*—A. S. Barnes & Co. (George M. Hendry Co., Ltd.)

Tisdall, R. M. N.: *The Young Athlete*—Blackie & Son (Ryerson Press)

Spalding Handbooks on Athletics—A. G. Spalding & Bros. of Canada, Ltd.

Holmes: *Movies on Paper*—Wayne University, Detroit, Mich.

Swimming

Canadian Y.M.C.A.: *Swimming, Diving and Life-saving Manual*—40 College St., Toronto

Royal Life-saving Society: *Handbook of Instruction*—Ontario Secretary-Treasurer, Mrs. J. M. Pretty, 206 St. Leonard's Ave., Toronto

OUTLINE OF COURSE FOR GIRLS

Grades IX, X, XI and XII

Time Allotment for Grades

Grade IX—	two periods a week
Grade X—	two periods a week
Grade XI—	three periods a week
Grade XII—	three periods a week

NOTE: Where it is impossible to separate boys' and girls' classes in Grades XI and XII for defence training and health education, *two* periods a week of physical education may be substituted for *three*.

Time Allotment for Activities

Grades IX and X—Gymnastics—	20 periods
Rhythmics—	20 periods
Games and Athletics—	20 periods
Grades XI and XII—Gymnastics—	30 periods
Rhythmics—	30 periods
Games and Athletics—	30 periods

NOTE: If swimming is taught, the time for each of the above activities should be reduced.

Gymnastics

The content of this course is not listed by grades, but is arranged in progression with suggestions as to the grade or grades in which certain activities should be carried on.

1. Fundamental Movements:

Movements of the trunk—dorsal, abdominal, lateral.

Movements of the upper extremity—shoulder, arm, hand.

Movements of the lower extremity—hip, leg, foot.

Balance movements—standing, progressing.

Locomotor movements—

even—walking, running, jumping, leaping, hopping;

uneven—sliding, skipping, galloping;

derived—two-step, polka, schottische, waltz, mazurka.

NOTE: The above movements include exercises from systems of gymnastics and the techniques of modern dancing. The teacher is expected to make up her own series of exercises according to the principles of the gymnastic table. The fundamental movements should be taught first in their simplest form and gradually progress in difficulty. These movements should suit the needs and capacities of the pupils and should be sufficiently difficult to present a constant challenge to them.

Progression may be secured in the following ways:

Varying the manner in which movement is performed, e.g., swinging, sustained, suspended, percussive;

Increasing the complexity of the rhythmic pattern;

Increasing the number of counts in the movement;

Increasing the duration of the movement;

Changing the tempo of the movement;

Changing the starting position;

Combining movements.

2. General Activities:

(a) Jumps—

Informal jumps (IX)—

Giant strides, bob jumps, jumping obstacles, jumping to touch an object, skipping.

High jumps (IX–X)—

Standing—sideward, forward—with double take-off;
scissors—with single take-off.

Running—oblique, forward—with single and double take-off.

Deep jumps (IX–XIII)—

Standing—forward, backward, sideward; turning—with
single or double take-off.

Running—forward, sideward, oblique—with single take-off
from form or sloping form; forward with double take-off from
spring board.

Jumps with assistance (XI–XIII)—

One assistant—upward jump; upward jump with leg parting (in place, over obstacle).

Two assistants—upward jump to extension, jump with leg parting, with knee raising, with leg raising to long sitting (in place, travelling on floor, clearing obstacle).

(b) Introduction to Vaults (IX–X)—

Crouch jumps—

Jumps—on the spot, advancing, from side to side; over line, rope or form.

Stoop standing bob jumps—

Hand support on form; increase height to two forms, three forms, box, buck or horse.

Jumps—with hip lifting, leg parting, leg flexion; on and off form; over form, box, buck or horse.

Rests—

Front rest, knee rest, knee rest and forward dismount (courage vault), squat mount, upsprings, front rest with leg circling.

(c) Vaults (XI–XIII)—

Squat vault (slow and quick between), pommel, wolf, front, flank, stride, oblique.

(d) Pyramids (IX–XIII)—

Individual, couple, triple, etc.; positions suitable for pyramids. Extended, circular, apparatus pyramids.

(e) Stunts (IX–XIII)—

Individual, couple and group stunts.

(f) Tumbling (IX–XIII)—

Rolls, handstand, headstand, balances.

The following points should be noted:

(1) Gymnastics is the basic course of the activity programme. It provides that fundamental training in physical education which, in conjunction with the practice of sound hygiene, will produce physical well-being adequate for the demands of daily life. It should develop easy co-ordinated movements and the ability to maintain good posture in walking, sitting or standing as well as in all forms of activity. It should lay a foundation of physical fitness and skill which will facilitate the learning of other skills not only in the physical education programme but in all walks of life.

(2) The lesson in gymnastics includes fundamental movements and general activities. Where this is not practicable owing to the shortness of the period, it is suggested that lessons be alternated between fundamental movements and general activities.

(3) The ability to walk well with uniformity of speed, length of step and co-ordinated corporate movement should be stressed. Precision in movement and the concentration necessary for accurate responses are desirable, but “military drill” as such, is undesirable and inappropriate for girls.

(4) General activities such as jumps, vaults, etc., should be practised in squads under pupil leaders trained in a leaders’ class. The value of a leaders’ class cannot be too strongly emphasized since it develops the ability to lead and to assume responsibility. It also facilitates the teaching and practice of general activities.

- (5) In all general activities such as jumps, vaults and tumbling, where there is danger of falling, it is essential to have a trained assistant to stand by.
- (6) The same activities should be repeated and practised until there is improvement in form, control, precision and ease of movement, since this is definitely one means of progression.
- (7) The activities should increase in difficulty from Grades IX to XIII, and each year pupils should grow in skill and improve in posture.
- (8) There should be marked growth in self-discipline from year to year, and in the self-direction of activities in squads under pupil leadership. By Grade XII pupils should be able to conduct squad activities safely and efficiently with a minimum of supervision by the teacher.
- (9) Music adds to the interest and enjoyment of fundamental movements.

Minimum Requirements:

- (1) A minimum of 100 (40-minute) periods shall be devoted to gymnastics, Grades IX–XII.

	Periods
Grade IX— Marching, fundamental movements and general activities.....	20
Grade X— Progression in the same activities.....	20
Grade XI— Progression in the same activities.....	30
Grade XII—Progression in the same activities.....	30
	<hr/> 100

- (2) If swimming is included in the programme, the minimum number of required gymnastic periods may be reduced to 80.
- (3) Where boys' and girls' classes are combined for the course in defence training and health education, a minimum of 80 periods in gymnastics is required, i.e., 20 periods each year.
- (4) It is suggested that ten lessons be devoted to one gymnastic table which would include marching, fundamental movements and general activities.

Rhythmics

1. Fundamental Movements:

- Movements of the trunk—dorsal, abdominal, lateral.
- Movements of the upper extremity—shoulder, arm, hand.
- Movements of the lower extremity—hip, leg, foot.
- Balance movements—standing, progressing.
- Locomotor movements—
 - even—walking, running, jumping, leaping, hopping;
 - uneven—sliding, skipping, galloping;
 - derived—two-step, polka, schottische, waltz, mazurka.

NOTE: The above movements are the same as those used in the gymnastics course and serve as a preparation for the dances.

2. Fundamental Rhythms:

- Phrasing.
- Primary rhythm—duple, triple, quadruple time.
- Secondary rhythm—divisions of the pulse or time pattern, e.g., resultant rhythm, syncopation, etc.
- Musical forms—
 - Song form, A B A, A A B A; rondo, A B A C A D, etc.; theme and variations; canon.

3. Dances:

Folk Dances—

American—round, circle, square, longways; English—circle, square, longways; Scotch; Irish; French; German; Scandinavian; European; Indian; Mexican.

National Dances—

Scotch—Highland Fling, Sword Dance; English—Sailors' Hornpipe, Morris, Sword; Irish—Hornpipe, Reel, Jig; Italian—Tarantella; Mexican—Jarabe Tapatio; Hungarian—Czardas; Bavarian—Schuhplatteltanz.

Ballroom Dancing—

Dance rhythms—fox-trot, waltz, tango.

Positions—closed, regular open, conversation, reverse open, left and right reverse open.

Steps—walk (slow, quick), side-step, box waltz, waltz, hesitation, two-step, grapevine, dip, balance, rocking step, canter walk, corté.

Combinations—developed from fundamentals.

Dance Compositions—

Song forms; resultant rhythm; theme and variations; rondo; syncopation; character dances; tap dances; athletic dances.

The following points should be noted:

(1) Participation in rhythemics should result in the joy and satisfaction of rhythmic self-expression.

(2) The spirit and significance of the dance should be stressed before its form and technique.

(3) The rhythemics lesson should provide a satisfying means of self-expression and should achieve the physiological objectives of the gymnastic lesson, e.g., organic vigour and co-ordination.

(4) The rhythemics lesson should include fundamental movements, rhythms, a new dance and familiar dances.

(5) In the rhythemics lesson based on a folk or national dance, the fundamental movements and rhythms should serve as a preparation for the teaching of a new dance. This can be achieved by analysis of the dance into its fundamentals, and use of these in the first part of the lesson.

(6) In the rhythemics lesson in which a dance is composed, the fundamental movements and rhythms should serve as a preparation for the assignment for composition.

(7) Each new dance learned should be regarded as an addition to a pupil's repertoire of dances which may be danced repeatedly for the social and rhythmic satisfaction inherent in them.

(8) The teaching of folk and national dancing should include relevant material such as general characteristics of the type of dance, costumes and customs of the people.

(9) Ballroom dancing should be made a co-educational activity, after the fundamentals have been mastered by each group.

Minimum Requirements:

(1) A minimum of 100 periods shall be devoted to rhythmic from Grades IX–XII, i.e., 20 periods in each of Grades IX and X and 30 periods in each of Grades XI and XII.

(2) The course shall include at least two types of dance and may include all four.

(3) The maximum time which may be devoted to each type of dance shall be as follows:

	Periods
Folk dance.....	50
National dance.....	50
Ballroom dance.....	50
Composition.....	50

(4) If swimming is included in the activity programme, a minimum of 80 periods shall be devoted to rhythmic, i.e., 20 periods each year.

(5) Where only two activity periods can be arranged in Grades XI and XII, a minimum of 80 periods shall be devoted to rhythmic, i.e., 20 periods each year.

Games and Athletics

1. Games of Low Organization:

Group, relay and tag games.

Lead-up games—

Baseball type, e.g., Danish Rounders, Soccer Baseball, Hit Pin Baseball.

Basketball type, e.g., Nine-court Basketball, Newcomb, Captain Ball.

Soccer type, e.g., Kick Dodge Ball, Rotation Soccer.

Miscellaneous, e.g., Wall Tennis, Ring Volleyball, Deck Tennis, Indian Hockey, Broom Ball.

2. Team Games:

Basketball—

Fundamental skills—

Catching and passing, shooting.

Individual tactics—

Starting, stopping, jumping, guarding, intercepting, bouncing, pivoting, feinting, juggling.

Team tactics—Offensive and defensive play.

Volleyball—

Fundamental skills—

Volleying, serving, passing underhand and overhand, setting up—underhand and overhand, spiking, recovering net ball.

Team tactics—Offensive and defensive play.

Field ball—

Fundamental skills—

Running, passing, throwing for goal.

Team tactics—Offensive and defensive play.

Soccer—

Fundamental skills—

Kicking, stopping, heading, trapping, blocking.

Team tactics—Offensive and defensive play.

Speedball—

Fundamental skills—

Soccer skills, punt, drop-kick, place-kick, dribble and pass, kick up.

Team tactics—Offensive and defensive play.

Softball—

Fundamental skills—

Running, batting, catching, throwing, pitching.

Team tactics—Offensive and defensive play.

3. Individual Games:

Tennis—

Fundamental skills—

The serve, forehand stroke, backhand stroke, volley.

Court tactics—Singles and doubles games.

Badminton—

Fundamental skills—

The serve, forehand and backhand strokes—clear, drive, drop, smash.

Court tactics—Singles and doubles games.

Archery—

Fundamental skills—

Stringing the bow, standing, necking the arrow, drawing, holding and aiming, releasing the arrow.

Tournament rounds.

Golf—

Fundamental skills—

Driving, putting, use of irons.

Rifle shooting—

Fundamental skills—

Aiming, shooting from lying, kneeling, standing position, range discipline and handling of rifle.

Competitions.

4. Field Athletics:

Individual Events—

Dashes—up to 75 yards.

Jumps for form—scissors, from left and right, front with left and right take-off, 3-5 or more running steps approach.

Game skills—catching, throwing, serving, kicking, for distance or accuracy (softball, tennis ball, volleyball, basketball, soccer ball).

Stunts—head stands, hand stands, rolls, balance exercises on beam, etc., for form and control.

Team Events—

Low organization games—relay and lead-up games with and without equipment.

Game skills—in groups of two or more for speed and accuracy.
Pyramids, tumbling routines, folk dances, gymnastic tables,
rhythmic patterns, stunts, original songs, etc.
Team games.

Disapproved of—

High jumping (for height), broad jumping, hop step and jump,
in competition; shot-put and throwing of any kind of heavy
weight; long dashes, hurdling.

- 5. Skating.
- 6. Hiking.

The following points should be noted:

- (1) In the games period the playing of the game should be stressed rather than practice of skills.
- (2) The game skills should be practised as the need for them arises in the playing of the game.
- (3) The games lesson should begin with a short practice of a skill for which the pupils feel a need. This skill should then be coached as the game is played. At the end of the lesson pupils should evaluate their playing ability and suggest a means of improving it. This discussion will motivate the practice of skills in the subsequent lesson.
- (4) When the activities of the games lesson do not stress physiological objectives, a few movements to promote these should be included in the lesson.
- (5) The games period should be organized to provide adequate activity for every pupil in the class, either in actual playing of games or in some leadership capacity.
- (6) A leaders' class is the most efficient way of preparing assistants for the games period.
- (7) Games provide an excellent opportunity for the teaching of good citizenship.
- (8) It is suggested that the individual sports which are more useful in adult life be stressed in the upper grades.
- (9) A Sports Day, based upon *team* competition with the majority of the pupils participating, shall replace the traditional Field Day which emphasized individual competition, and appealed only to a small percentage of highly skilled pupils.

Minimum Requirements:

- (1) A minimum of 100 (40-minute) periods shall be devoted to games in Grades IX–XII, i.e., 20 periods in each of Grades IX and X and 30 periods in each of Grades XI and XII.
- (2) The maximum time which shall be devoted to each activity is as follows:

Periods		Periods	
Basketball.....	30	Skating.....	20
Volleyball.....	20	Hiking.....	20
Softball.....	20	Badminton.....	20
Fieldball.....	20	Tennis.....	10
Soccer.....	20	Archery.....	10
Speedball.....	20	Golf.....	10
Field Athletics.....	20	Rifle Shooting.....	10

(3) At least one of the games selected shall be an individual sport, e.g., badminton, tennis, archery, golf or rifle shooting.

(4) If swimming is included in the programme, a minimum of 80 periods shall be devoted to games, i.e., 20 periods each year.

(5) Where only two activity periods can be arranged in Grades XI and XII, a minimum of 80 periods shall be devoted to games, i.e., 20 periods each year.

Swimming

1. Strokes—

Elementary crawl, back stroke, breast stroke, side stroke, crawl, overarm side.

2. Diving—

Plain dive, jack-knife, swan, running dive.

3. Life Saving—

Emergency measures—

Changing from back to front and front to back positions, treading water, sink and save, relieving cramps while floating, fireman's carry from shallow water, lift out of deep water at edge of pool, surface dive for objects of different weights.

Releases—

Surface and underwater approach, front strangle hold, back strangle hold, neck hold, body hold, double grip on one wrist, breaking two persons apart.

Rescues—

Head carry, cross chest carry, hair carry, tired swimmer carry.

4. Water Games—

Tag, relay, group.

5. Stunts—

Elementary—head first sculling, feet first sculling, motionless floating, marching, long plunge, spinning top, wash tub.

Intermediate—canoe, swimming on breast, feet first, pendulum, paddle wheel.

Advanced—pendulum floating, rolling log, back somersaults, propeller, imitation of torpedo, formation swimming.

The following points should be noted:

(1) Every pupil in the school should learn to swim.

(2) Where a pool is not available, the mimetics of the swimming strokes should be taught, so that the pupils may practise intelligently when the opportunity arises.

(3) Every pupil should learn life-saving measures as a routine safety precaution.

(4) Advanced diving and competitive swimming should not be attempted until provision has been made for the achievement of the above standards.

Minimum Requirements:

Schools which have a swimming pool should devote a minimum of 40 periods to swimming in Grades IX–XII.

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